

(iv) Ascertain, with the engine running, that the system maintains an adequate supply of compressed air;

(v) Determine that required minimum air pressure build up time is within acceptable limits and that required alarms and emergency devices automatically deactivate at the proper pressure level; and

(vi) Operationally check the brake system for proper performance.

(2) *Driving skills.* Applicants shall successfully complete the skills tests contained in §383.113 in a representative vehicle equipped with air brakes.

(d) *Test area.* Skills tests shall be conducted in on-street conditions or under a combination of on-street and off-street conditions.

(e) *Simulation technology.* A State may utilize simulators to perform skills testing, but under no circumstances as a substitute for the required testing in on-street conditions.

§383.115 Requirements for double/triple trailers endorsement.

In order to obtain a Double/Triple Trailers endorsement each applicant must have knowledge covering:

(a) Procedures for assembly and hookup of the units;

(b) Proper placement of heaviest trailer;

(c) Handling and stability characteristics including off-tracking, response to steering, sensory feedback, braking, oscillatory sway, rollover in steady turns, yaw stability in steady turns; and

(d) Potential problems in traffic operations, including problems the motor vehicle creates for other motorists due to slower speeds on steep grades, longer passing times, possibility for blocking entry of other motor vehicles on free-ways, splash and spray impacts, aerodynamic buffeting, view blockages, and lateral placement.

§383.117 Requirements for passenger endorsement.

An applicant for the passenger endorsement must satisfy both of the following additional knowledge and skills test requirements.

(a) *Knowledge test.* All applicants for the passenger endorsement must have

knowledge covering at least the following topics:

(1) Proper procedures for loading/unloading passengers;

(2) Proper use of emergency exits, including push-out windows;

(3) Proper responses to such emergency situations as fires and unruly passengers;

(4) Proper procedures at railroad crossings and drawbridges; and

(5) Proper braking procedures.

(b) *Skills test.* To obtain a passenger endorsement applicable to a specific vehicle group, an applicant must take his/her skills test in a passenger vehicle satisfying the requirements of that group as defined in §383.91.

§383.119 Requirements for tank vehicle endorsement.

In order to obtain a Tank Vehicle Endorsement, each applicant must have knowledge covering the following:

(a) Causes, prevention, and effects of cargo surge on motor vehicle handling;

(b) Proper braking procedures for the motor vehicle when it is empty, full and partially full;

(c) Differences in handling of baffled/compartmental tank interiors versus non-baffled motor vehicles;

(d) Differences in tank vehicle type and construction;

(e) Differences in cargo surge for liquids of varying product densities;

(f) Effects of road grade and curvature on motor vehicle handling with filled, half-filled and empty tanks;

(g) Proper use of emergency systems; and

(h) For drivers of DOT specification tank vehicles, retest and marking requirements.

§383.121 Requirements for hazardous materials endorsement.

In order to obtain a Hazardous Material Endorsement each applicant must have such knowledge as is required of a driver of a hazardous materials laden vehicle, from information contained in 49 CFR parts 171, 172, 173, 177, 178, and 397 on the following:

(a) Hazardous materials regulations including:

(1) Hazardous materials table;

(2) Shipping paper requirements;

(3) Marking;

- (4) Labeling;
- (5) Placarding requirements;
- (6) Hazardous materials packaging;
- (7) Hazardous materials definitions and preparation;
- (8) Other regulated material (e.g., ORM-D);
- (9) Reporting hazardous materials accidents; and
- (10) Tunnels and railroad crossings.
- (b) Hazardous materials handling including:
 - (1) Forbidden Materials and Packages;
 - (2) Loading and Unloading Materials;
 - (3) Cargo Segregation;
 - (4) Passenger Carrying Buses and Hazardous Materials;
 - (5) Attendance of Motor Vehicles;
 - (6) Parking;
 - (7) Routes;
 - (8) Cargo Tanks; and
 - (9) "Safe Havens."
- (c) Operation of emergency equipment including:
 - (1) Use of equipment to protect the public;
 - (2) Special precautions for equipment to be used in fires;
 - (3) Special precautions for use of emergency equipment when loading or unloading a hazardous materials laden motor vehicle; and
 - (4) Use of emergency equipment for tank vehicles.
- (d) Emergency response procedures including:
 - (1) Special care and precautions for different types of accidents;
 - (2) Special precautions for driving near a fire and carrying hazardous materials, and smoking and carrying hazardous materials;
 - (3) Emergency procedures; and
 - (4) Existence of special requirements for transporting Class A and B explosives.

APPENDIX TO SUBPART G—REQUIRED KNOWLEDGE AND SKILLS—SAMPLE GUIDELINES

The following is a sample of the specific types of items which a State may wish to include in the knowledge and skills tests that it administers to CDL applicants. This appendix closely follows the framework of §§ 383.111 and 383.113. It is intended to provide more specific guidance and suggestion to States. Additional detail in this appendix is not binding and States may depart from it at

their discretion provided their CDL program tests for the general areas of knowledge and skill specified in §§ 383.111 and 383.113.

EXAMPLES OF SPECIFIC KNOWLEDGE ELEMENTS

(a) *Safe operations regulations.* Driver-related elements of the following regulations:

- (1) Motor vehicle inspection, repair, and maintenance requirements as contained in parts 393 and 396 of this title;
- (2) Procedures for safe vehicle operations as contained in part 392 of this title;
- (3) The effects of fatigue, poor vision, hearing, and general health upon safe commercial motor vehicle operation as contained in parts 391, 392, and 395 of this title;
- (4) The types of motor vehicles and cargoes subject to the requirements contained in part 397 of this title; and
- (5) The effects of alcohol and drug use upon safe commercial motor vehicle operations as contained in parts 391 and 395 of this title.

(b) *Commercial motor vehicle safety control systems.* Proper use of the motor vehicle's safety system, including lights, horns, side and rear-view mirrors, proper mirror adjustments, fire extinguishers, symptoms of improper operation revealed through instruments, motor vehicle operation characteristics, and diagnosing malfunctions. Commercial motor vehicle drivers shall have knowledge on the correct procedures needed to use these safety systems in an emergency situation, e.g., skids and loss of brakes.

(c) *Safe vehicle control—(1) Control systems.* The purpose and function of the controls and instruments commonly found on commercial motor vehicles.

(2) *Basic control.* The proper procedures for performing various basic maneuvers, including:

- (i) Starting, warming up, and shutting down the engine;
- (ii) Putting the vehicle in motion and stopping;
- (iii) Backing in a straight line; and
- (iv) Turning the vehicle, e.g., basic rules, off-tracking, right/left turns and right curves.

(3) *Shifting.* The basic shifting rules and terms, as well as shift patterns and procedures for common transmissions, including:

- (i) Key elements of shifting, e.g., controls, when to shift and double clutching;
- (ii) Shift patterns and procedures; and
- (iii) Consequences of improper shifting.

(4) *Backing.* The procedures and rules for various backing maneuvers, including:

- (i) Backing principles and rules; and
- (ii) Basic backing maneuvers, e.g., straight-line backing, and backing on a curved path.

(5) *Visual search.* The importance of proper visual search, and proper visual search methods, including:

- (i) Seeing ahead and to the sides;
- (ii) Use of mirrors; and